# Where Is My Beta At?

By Lt. Shawn Frazier

After flying eight uneventful field-carrier-landing-practice (FCLP) passes, it was time to full stop and let someone else jump in and give it a shot. We had a clear, sunny day in Virginia, and we were flying FCLPs at NALF Fentress—getting ready to hit the boat for work-ups. My squadron was the first E-2C squadron to be fitted with the new eight-bladed, NP2000 propellers. We'd only had the new props for a short time and were acting as a test bed for the new system.

The Hawkeye power-lever quadrant has flight-idle stops that prevent the power levers from inadvertently being brought into the ground range. For full-stop landings, the power levers are brought back until they hit the stops, then they must be pulled up to the top of a detent. At this point, two beta lights come on, indicating the secondary low-pitch stops (SLPS) have been disabled, which permits selection of propeller-blade angles below flight idle. With the power levers at the top of the flight-idle stops and two good beta lights, the power levers can be brought safely back into the ground (beta) range, or so we are led to believe.

The arresting gear at Fentress is squirrelly, and you easily can be knocked out of battery if your landing technique isn't perfect. On touchdown, I smoothly brought back the power levers to the top of the flight-idle stops. Both beta lights illuminated, and I called for concurrence from the copilot. I brought back the power levers to ground idle and held back pressure on the nose until our mainmounts crossed over the arresting gear. Once over the gear, I brought back the power levers into reverse to decelerate the plane. As soon as the power levers came back, the aircraft made a surging noise, and we felt a violent swerve to the left. This swerve was accompanied by the master-caution lights. I immediately fed in full right rudder and brought back the power levers toward flight idle. I reached down and engaged the nosewheel-steering handle, and used it to try to keep the aircraft from departing the runway.

I looked down to see what had caused the master-caution light, but the caution-lights panel was blank. When the new prop system was installed, the caution light for a failed electronic-propeller control (EPC) conveniently was placed on the eyebrow panel, out of sight, above the pilot's head. I looked up and saw the EPC FAIL light was lit, and the beta light on the right prop had extinguished. As I tracked the plane back toward runway centerline, I looked down and noted that horsepower on the left engine was about 400 indicated horsepower (IHP), while the right engine was up over 1,200 IHP. I realized the right propeller was stuck in the flight range, and I couldn't use either propeller to help stop the aircraft without losing directional control. Our airspeed now was below 100 knots, and I was running out of runway. I considered the option of taking the plane airborne but decided I'd have a better chance of getting it stopped on the runway. I stomped on the brakes and called for the copilot to stand by to drop the hook for the long-field gear.

With both engines running at near flight idle, the plane wasn't slowing down very well. The brakes on the E-2 aren't much better than the ones on my mountain bike, and any amount of heavy braking causes them to heat up—fast. Knowing this, I tried to pump them a little to keep them from completely failing.

I got the aircraft to a controllable speed by the end of the runway, and we taxied clear. I selected full flaps to force more airflow over the brakes, but, with the power up as high as it was, I had to engage the parking-emergency brake to keep the aircraft stopped.

Photo by Mass Communication Specialist 3rd Class Michael D. Cole.

Another special feature of the E-2 is that it drains fuel from the fuel manifold upon shutdown. This drain conveniently is located directly above the mainmounts and the brakes, which, by now, had to be glowing red. We called the Fentress crash crew for precautionary firefighting assistance and sat there turning for about 15 minutes to let the brakes cool before we shut down the engines. After shutdown, we inspected the brakes and found they completely were fused. A maintenance crew had to drive from Norfolk to change out both mainmounts.

The situation could have been a lot worse.

An instructor in one of the training commands once said something to me that I thought was funny at the time, but, as years have passed, what he said has saved me more than a couple of times. He said, "If something bad happens right after you do something in the aircraft, no matter what it was you did, undo it."

This advice may sound like common sense, but trust me, adding power when the aircraft is pointing at the dirt isn't the intuitive thing to do. With one propeller in a reverse-blade angle, the other in a flight-blade angle, and the power levers dumping gas into both of them, the differential thrust produced caused an intense and uncontrollable swerve. Bringing the power levers back up toward flight idle more closely matched the thrust produced by each prop and acted to provide more airflow over the rudders for directional control. This action ultimately allowed me to keep the aircraft from departing the runway.

The actual cause of the problem never was determined with any certainty. It's believed to be associated with the propeller J-box and the weight-on/off-wheels signal that runs through the J-box. Problems have been noted with that component since this incident. The J-box was changed, and this problem never manifested itself again.

The next time you turn on your ACLS receiver and your left low-fuel light comes on, turn it off; the light will go out.

Yes, that happened to me, too. Coincidence? Who knows?

Lt.Frazier flew with VAW-124; he currently is with VAW-120.